

secular change we know nothing at all. We can, however, perceive that the snowfall of winter results from water that was evaporated long before from tropical and equatorial regions, and that any excess of the glaciers of the Antarctic Continent over those of the Arctic must be due largely to the more abundant supply brought by moist ocean winds.

When the African Continent was 10,000 feet above ocean level with its great gorges of the Nile, the Congo, and the Zambesi, and when the submarine gorges off the mouths of the Congo and the Hudson were being eroded, both the African and the American continents *may* have had a larger snowfall and rainfall and a much larger outflow than now; but the existence of these gorges does not prove this since we see similar gorges now being cut down slowly by a comparatively small outflow in the Valley of the Colorado. Duration and quantity are equally important.

We think it is safe to say that no great changes in continents, oceans, or plateaus, arctic or antarctic, are likely to have made any correspondingly great change in the rainfall of the globe as a whole, and that therefore the globe is not now slowly drying up. The maximum annual rainfall that can occur on this globe as a whole is determined by the maximum total annual evaporation that can be caused by the sun's heat acting on the ocean, taken in connection with the maximum vertical interchange of air currents, since it is the cooling due to the latter that produces clouds and rain.—*C. A.*

TASMANIA AND THE TOTAL SOLAR ECLIPSE.

The meteorologist of Tasmania, W. H. C. Kingsmill, has called attention to the fact that the total solar eclipse of May 9, 1910, will be visible from that locality, and as this is one of the few places where observers can be located on land he anticipates that many government expeditions will be sent to that region. As these expeditions generally include not only technical astronomers but those representing other branches of science, such as meteorology, botany, and geology, it is likely that this event will be made the occasion of a very considerable addition to our knowledge of that region. American scientists are especially invited, and it is hoped that our meteorologists and botanists will improve the opportunity. An extensive scientific expedition analogous to that sent by the United States Government to the west coast of Africa in 1889 would be quite in order and probably yield as important results as those attained by the members of that expedition.—*C. A.*

DRIEST YEAR AT PORTLAND, ME.

By E. B. JONES, Local Forecaster. Dated Portland, Me., January 4, 1909.

In connection with the "Annual Index of Meteorological Notes," I will state that the year 1908 was the driest in the history of this station. Every month in the twelve was drier than normal, with three exceptions. The nearest approach to this record was in 1883, but this year had 1.25 inches of rain more than 1908.

During the year just ended there were only 30.74 inches of precipitation. The normal precipitation for the year in Portland is 42.51 inches, making a deficiency of 11.77 inches, or practically 1 foot.

June was the driest, for this month, on record and September was one of the driest, for the month, in the history of the local office. May was the only month which had any noticeable excess of precipitation.

As a result of the extreme dry weather, Maine suffered one of the greatest droughts in her history, forest fires destroyed hundreds of thousands of dollars worth of timber and other property, and crops were seriously injured and in many cases completely cut off.

At the present time the dry weather is being severely felt by mill owners and by farmers, who in many cases are hauling water from long distances. Many large industries have been obliged to shut down.

ADDRESS TO THE MATHEMATICAL AND PHYSICAL SECTION OF THE BRITISH ASSOCIATION FOR THE ADVANCEMENT OF SCIENCE, DUBLIN, SEPTEMBER, 1908.

By W. N. SHAW, Sc.D., LL.D., F.R.S., President of the Section.¹

It is with much misgiving that I endeavour to discharge the traditional duty of the president of a section of the British Association. So many other duties seem to find a natural resting place with anyone who has to reckon at the same time with the immediate requirements of the public, the claims of scientific opinion, and the interests of posterity, that, unless you are content with such contribution towards the advancement of the sciences of mathematics and physics as my daily experience enables me to offer you, I shall find the task impossible.

With a leaning towards periodicity perhaps slightly unorthodox I have looked back to see what they were doing in Section A fifty years ago. Richard Owen was President of the Association, William Whewell was President of Section A for the fifth time.

At the meeting of 1858 they must have spent some time over nineteen very substantial reports on researches in science, which included a large section of Mallett's facts and theory of earthquake phenomena, magnetic surveys of Great Britain and of Ireland, and, oddly enough, an account of the self-recording anemometer by Beckley; perhaps a longer time was required for fifty-seven papers contributed to the section, but very little was spent over the presidential address, for it only occupies two pages of print. My inclination towards periodicities and another consideration leads me to regard the precedent as a good one. That other consideration is that Section A has always more subjects for discussion than it can properly dispose of; and, in this case, discipline, like charity, might begin at home.

Since the section met last year it has lost its most illustrious member and its most faithful friend. Lord Kelvin made his first contribution to Section A at Cambridge in 1845, on the elementary laws of statical electricity; he was president of the section in 1852 at Belfast for the first of five times. I have looked to see what suggestion I could derive from his first essay in that capacity. I can find no reference to any address in the published volume. I wish I had the courage to follow that great example.

Lord Kelvin's association with Section A was so constant and so intimate that it requires more than a passing word of reference. There is probably no student of mathematics or physics grown into a position of responsibility in this country but keeps among his treasured reminiscences some words of inspiration and of encouragement from Kelvin, spoken in the surroundings which we are once more met to inaugurate. I

¹On the occasion of the recent meeting of the British Association at Dublin the Senate of Dublin University conferred honorary degrees on many distinguished men including the following well-known meteorologists:

Dr. W. N. Shaw, Director of the Meteorological Office, London; Capt. H. G. Lyons, Director-General of the Survey Department in Egypt.

Also the following, who have contributed more or less directly to our science:

Sir David Gill, late Director of the Royal Observatory, Cape Town, South Africa; Dr. Horace Lamb, Professor of Mathematics, University of Manchester, England; Dr. E. Rutherford, Professor of Physics, University of Manchester, England, formerly of McGill University, Montreal, Canada.

The elegant address of Dr. W. N. Shaw, as President of the Mathematical and Physical Section (Section A) of the British Association, will, we believe, be instructive to every reader of the Monthly Weather Review, and we therefore reprint it in full.